



Ohio Crop Variety Release Guidelines and Policy

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Ohio Agricultural Research and
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Wooster, Ohio

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Ohio Crop Variety Release Guidelines and Policy

Ohio crop production acreage traditionally ranges from 9.5 to 10 million acres annually. In addition, approximately 1.5 million acres are used for hay and pasture production. Ohio's major agronomic crops are corn and soybeans. In 1989, Ohio produced corn on 3 million acres with a total production of 342 million bushels (5 percent of U.S. total production). Soybeans were produced on 4 million acres with a total production of 127 million bushels (7 percent of U.S. total production). Other major agronomic crops include soft red winter wheat (1.25 million acres; 12 percent of U.S. total soft red winter wheat production) and oats (300,000 acres; 4 percent of U.S. total oats production). Minor crop species grown in Ohio (1989) include canola (13,000 acres), rye (40,000 acres), tobacco (9,000 acres), and sugar beets (20,000 acres).

The Nature and Scope of The Ohio Seed Industry

The seed industry in Ohio is characterized by the production and marketing of major and minor crop species. Ohio grown and processed seed is valued at \$30 million a year, while the total value of seed used for crop production in Ohio approaches \$100 million per year. In general, the Ohio Seed Industry can best be described as quite diverse and largely comprised of certified seed growers.

The Ohio farmers' annual requirement for seed of major agronomic crops is met by both the importation (out-of-state) of seed and domestic (Ohio) production. Domestic seed corn production in Ohio is estimated to supply 10 percent of the seed needs for the state. It is estimated that 25 percent of the 4 million acres of Ohio soybeans are planted using domestically produced certified soybean seed, with a seed value of approximately \$10 million. Ohio certified soybean seed exported annually to the Atlantic coastal states or brokered to other Midwestern seed houses represent a significant market for Ohio seed. Approximately 60 percent of Ohio's 1 million acres of wheat are planted to certified seed which represents a cash value of \$5 million. Oat acreages in Ohio required approximately 300,000 bushels of seed, 50 percent representing certified seed. Other miscellaneous seed produced in Ohio include small grain seed crops such as barley, spelt, and rye.

Ohio farmers' need for forage, grass, and specialty crop seed species is largely met by importing seedstock from other states. These minor crop species include: grasses, canola, forage legumes, and vegetable seeds. There are, however, small acreages grown in Ohio of miscellaneous

species which constitute both certified and non-certified seed types. This list includes: tree seeds, redbud, red clover, sweet clover, timothy, navy bean, buckwheat, and open-pollinated seed corn. Information regarding turf type seed species usage is unavailable. However, urban consumer and industrial demand is estimated to exceed \$5 million annually for these high-value seed types.

Ohio Seed Law and Provision for Ohio Seed Certification Agency

Official Seed Certification Agency For Ohio

Section 5805-2, Subsection (BB) of the Ohio General Code, as amended effective September 9, 1949, provides for the designation of an inspection and certification agency to prescribe rules and regulations relating to the health, vigor, purity, type, and other matters pertaining to the certification and merchandising of agricultural seed, tubers, and plants produced, advertised, sold or offered for sale within Ohio.

Release Mechanisms

Ohio Seed Improvement Association

The Ohio Seed Improvement Association (OSIA) evolved from the Ohio Corn Improvement Association which was organized in 1908. OSIA is the Official Certifying Agency for Ohio and is ultimately responsible to the Vice President of the College of Agriculture at The Ohio State University and the Director of the Ohio Department of Agriculture. This association maintains and makes available to the farmers of Ohio and other states, and the public in general, high-quality seed of genetically pure varieties.

OSIA is governed by a Board of Directors consisting of eight producer members, three university representatives, and one representative from the Ohio Department of Agriculture. The staff consists of eight full-time employees and more than 40 part-time field inspectors. The OSIA office is located at Dublin, Ohio. The association is a non-profit organization which is supported by fees and levies paid by the membership. A modern seed laboratory provides seed analysis services for both members and farmers. More than 12,000 such tests are performed annually. Seed crops certified in Ohio include corn, soybeans, wheat, barley, oats, spelt, and forestry reproductive

materials. Total acres entered for certification have historically exceeded 110,000 annually.

Active membership at OSIA is limited to qualified certified seed producing applicants who meet specific criteria for active membership and who are willing to make a significant financial commitment. Research fees are levied annually based on bushels of certified seed sold and certified acres passing field inspection. These OSIA research funds are used to support The Ohio State University/OARDC crop breeding programs. The funding program contributes to the development of new, certified varieties. Emphasis is also placed upon educational programs to promote certified varieties through test plots, mailings, videotapes, and new variety brochures.

The Ohio seed certification program is based on genetic purity standards. OSIA also provides quality control inspection services for non-certified seed crops produced by active members.

Agricultural Genetics Research Association (AGRA)

AGRA was established in 1985 and is composed of 15 OSIA members. It has marketing outlets in all 88 Ohio counties. The agreement reached between AGRA and The Ohio State University/OARDC for variety releases states that varieties not recommended for public release by the Crop Variety Release and Distribution Committee shall be considered for possible release to AGRA on a first-refusal basis, and AGRA shall have exclusive rights to reproduce and merchandise those varieties accepted. AGRA must accept or reject a variety within 90 days after the variety is offered. Varieties accepted shall be placed under Plant Variety Protection and shall be limited to two classes of certified seed.

A royalty, which is negotiated on each variety, is to be paid to Ohio State University for each unit of seed sold. All varieties are to be maintained by Ohio Foundation Seeds.

Non-Exclusive Contractual Release

New cultivar germplasm not deemed suitable for public release and not accepted by AGRA may be offered to OSIA members on a non-exclusive, contract basis. This option is most likely to occur when germplasm does not have wide

agronomic adaptability in the state or has other characteristics which might limit cultivar acceptance.

Mechanism for Distribution and Production of Seed

There is no state agency per se in Ohio responsible for distributing seed to farmers, breeders, growers, etc. Seed of a new variety is released by the university plant breeder to Ohio Foundation Seeds Inc. This not-for-profit company is responsible to OARDC/OSU, under a memorandum of understanding, for producing foundation seed and breeder seed. Breeder seed grown by Ohio Foundation Seeds is inspected and approved by the breeder for use in production of foundation generation seed. Subsequent generations (i.e. registered and certified class) are grown by seed producers who are members of the Ohio Seed Improvement Association. Purity and quality standards are certified and enforced by OSIA. Seed of new public varieties developed by Ohio State University may be shared with foundation seedstock companies in other states under guidelines published by the directors of state agriculture experiment stations.

Crop Variety Release and Distribution Committee (CVRDC)

Release of all new crop varieties or germplasm is coordinated by the Crop Variety Release and Distribution Committee.

The purpose and objective of the Crop Variety Release and Distribution Committee (CVRDC) is to advise the OARDC Director on matters pertaining to the development, release and distribution of the best-quality germplasm of agronomic crops to Ohio farmers. Implicit in this objective is the philosophy that the best lines will be released as public varieties except in those cases where, upon the considered judgment of this committee, the release of a particular line or variety through proprietary agents would best serve the interests of Ohio farmers. In such cases where release of varieties or lines through a proprietary agent is recommended, a public release of such germplasm shall always be considered first.

Crop Variety Release and Distribution Committee (CVRDC)

I. Functions

1. To determine what constitutes adequate evaluation of a variety and to develop and follow the guidelines and criteria (See Section IV) for releasing varieties.
2. To recommend to the Director of the Ohio Agricultural Research and Development Center any variety, inbred line, or genetic materials released for breeding which should be released, along with the recommended name in the case of new varieties. The Director's approval is required for all releases from Ohio.
3. Upon the recommendation of the committee to release a variety or germplasm, to instruct the appropriate plant breeder to prepare a draft of an appropriate "variety release notice" for approval by the Director. The approved notice will be sent to all U.S. Experiment Station Directors and to appropriate USDA and Ohio Department of Agriculture personnel.
4. To recommend methods of seed release and distribution.
5. To make recommendations to the Director of the Ohio Department of Agriculture and to the Director of OARDC, concerning changes needed in, or observed violations of, the Ohio Seed Law, including provisions of the Plant Variety Protection Act of 1971.
6. To make recommendations to the Director, Ohio Department of Agriculture, and to the Director of OARDC concerning any matters deemed significant in terms of variety release and distribution involving agricultural crops.
7. To designate recommended varieties and regions of adaption for all agronomic crops not being evaluated in variety performance tests.

II. Membership of the Committee

1. Faculty members of the Department of Agronomy having individual responsibility for plant breeding research on corn, soybeans, wheat, oats, and other small grains and crops as appropriate.
2. An extension agronomist involved in crop improvement and crop production.
3. Chairman, Department of Agronomy or Associate Chairman, Department of Agronomy.
4. Two representatives from the Department of Plant Pathology responsible for corn, soybeans, and small grains.
5. Representative from the Department of Entomology.
6. Representative from Ohio Seed Improvement Association.
7. Representative from Ohio Foundation Seeds.
8. Representative from Ohio Seed Dealers Association.
9. Representative from Ohio Department of Agriculture.
10. Assistant Director—Agricultural Industry, Ohio Cooperative Extension Service.
11. USDA Crop Breeders and Geneticists.

Crop Variety Release and Distribution Committee (CVRDC) (Continued)

III. General Provisions

The Chairman of the Department of Agronomy shall serve as chairman of this committee; the Assistant Director, Ohio Cooperative Extension Service, shall serve as vice chairman; and a plant breeder in Agronomy shall serve as secretary of this committee. The committee shall be empowered to call upon the service of other individuals (on an ad hoc basis) for advice and assistance in accordance with committee determination as to need for such advice and assistance.

All meetings of the committee must have a quorum of at least 10 members to conduct official committee business. Majority rule shall be recognized in all decisions of the committee. Committee governance shall be in accordance with "Robert's Rules of Order." All votes shall be by ballot except where voice votes are agreed to unanimously by the voting members present. The breeder(s) involved in a variety or line release shall abstain from voting on such releases.

The foregoing committee shall become one of the "continuing standing committees" of the College of Agriculture, The Ohio State University, the Ohio Agricultural Research and Development Center, and the Ohio Cooperative Extension Service. Prior to July 1 of each year, suggestions for changes in committee membership shall be made by those administrative officers to whom members of the committee regularly report. If no recommendations for change are received prior to July 1 of each year, the OARDC Director will reappoint all members for the succeeding committee year which will commence on September 1 each year.

It is essential that the committee chairman establish regular meeting dates each year covering the period September 1 through the following August 31, and making known those dates to all members of the committee. Special meetings may be authorized by majority vote of the Executive Committee comprised of the chairman, vice chairman, secretary, the representative of the Ohio Seed Improvement Association, and the representative of the Ohio Department of Agriculture, or upon petition by a majority of the total committee membership. Each committee member shall consult with his supervisor or other appropriate official as to an individual who can be named as an official substitute and such substitute member shall attend all "specially called" meetings which cannot be attended by the regularly appointed member. Substitute membership will enjoy voting privileges at all such meetings. Minutes of each regular or special meeting shall be sent to each member of the committee as well as to the Director, Ohio Department of Agriculture, and to the Director and Associate Director, Ohio Agricultural Research and Development Center.

IV. Guidelines for Varietal Releases

Guidelines for release

1. Minimum standards for testing in Ohio:
 - varieties developed by backcrossing four or more generations to an existing variety
 - . . . one year and three tests (site-years);
 - varieties developed by backcrossing two or three generations to an existing variety
 - . . . two years and six tests;
 - all other varieties
 - . . . three years and nine tests.

Exception: The testing requirement may be waived by the committee in cases where the superior performance of the proposed release in one or more characteristics is judged to outweigh the limitation in numbers of test environments.

Crop Variety Release and Distribution Committee (CVRDC)
(Continued)

2. For the guidance of committee members in interpreting the data, Least Significant Differences (LSD's) should be presented for quantitative traits that are subject to substantial nongenetic variation (yield, maturity, heading date, height, etc.). It is usually inconvenient to perform the combined analysis of variance necessary to obtain exact LSD's for traits measured in multiple tests; therefore, it is acceptable to substitute separate LSD's for each test or year of testing or to calculate an approximate LSD for multi-year tests. The approximate LSD may be obtained from combined analyses of data sets that are believed to be typical of Ohio test data. The 30 percent significance level may be more appropriate than 5 percent for decisions concerning varietal release. The LSD should be used by the committee as a guideline for estimating the genetic superiority of a potential new release; it is not intended to set a rigid requirement that new releases must exceed established varieties by the LSD or an other fixed amount.

3. Presentations of data on the following traits is strongly recommended:

Corn	Small Grains	Soybeans
Yield	Yield	Yield
Maturity (or % moisture)	Heading date	Maturity
Lodging	Lodging	Lodging
Height	Height	Height
Ear height	Protein	Seed Size
Test weight	Baking & milling quality	Protein
Disease resistance	Test weight	Oil
Insect resistance	Disease resistance	Disease resistance
	Insect resistance	Insect resistance

Data on other traits should be presented according to the breeder's judgment.

Variety Releases (Since 1980)

Soft Red Winter Wheat

1984	Adena	- Public Release
1985	Becker	- Public Release
	GR855	- AGRA Release
1986	Cardinal	- Public Release
	GR860	- AGRA Release
	GR863	- AGRA Release
1987	Dynasty	- Public Release
	GR876	- AGRA Release
1990	Excel	- Public Release
1991	Freedom	- Public Release
	GR915	- AGRA Release

Spelt

1986	Champ	- Public Release
1990	GR Spelt	- AGRA Release

Variety Releases (Since 1980)
(Continued)

Barley

1986	Ray	- Public Release
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Soybean

1981	Hobbit	- USDA/OSU Public Release
1984	Century 84	- Public Release
	Zane	- Public Release
1985	Sherman	- Public Release
	Gnome 85	- USDA/OSU Public Release
	Ripley	- USDA/OSU Public Release
1987	Resnik	- Public Release
	GR8836	- AGRA Release
	Hobbit 87	- USDA/OSU Public Release
	Sprite 87	- USDA/OSU Public Release
1988	Flyer	- Public Release
	GR8936	- AGRA Release
1989	Hayes	- Restricted Release
	Amcor 89	- USDA/OSU Public Release
1990	Chapman	- Public Release
	Edison	- Public Release
1991	Erie	- Public Release
	McKinley	- Restricted Release
	Dawes	- Restricted Release

Corn

1981	OH 570	- Public Release
	OH 572	- Public Release
1985	OH 589	- Public Release
	OH 587	- Public Release
1991	OH 53 (C5)	- Public Release
1991	OH 54 (C1)	- Public Release
